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### Soluble interleukin 2 receptors abrogate IL-2 induced activation of peripheral mononuclear cells.

Zorn U, Dallmann I, Grosse J, Kirchner H, Poliwoda H, Atzpodien J  
Cytokine 1994 Jul 6:358-64

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#### Abstract

Soluble interleukin 2 receptors (sIL-2R) exert a potential role in immunoregulation. We investigated the in vitro effects of sIL-2R on several interleukin 2 (IL-2)-dependent cellular events. Cytotoxicity of human rIL-2-stimulated PBMC against K562 and Daudi was correlated inversely to the concentration of sIL-2R in the culture medium during rIL-2 stimulation. sIL-2R concentrations higher than 4.0 pM produced a significant loss of cytotoxicity ( $P < 0.01$ ). The effect of different sIL-2R concentrations added to cultured human PBMC on secondary sIL-2R production was tested by ELISA. Secondary sIL-2R production was abrogated by high initial sIL-2R dosages whereas low initial dosages were followed by a continuing production of secondary sIL-2R after five days of culture. Proliferation of the IL-2-dependent mouse cell line CTLL-2 was suppressed by sIL-2R added to the culture medium in a dose-dependent way. The neutralizing capacity of sIL-2R strongly depended on the initial number of CTLL set in per proliferation assay. In contrast, variation of rIL-2-concentration had no significant effect on reduction of proliferation by sIL-2R. Furthermore, preincubation of sIL-2R with rIL-2 did not enhance growth suppression. These last findings indicate that there is at least no functional interaction between sIL-2R and free IL-2, whereas an interaction of sIL-2R with the membrane-bound receptor for IL-2 seems possible.

#### MeSH

[Animal](#); [Cell Division](#); [Cell Line](#); [Cells, Cultured](#); [Comparative Study](#); [Cytotoxicity Tests](#); [Immunologic](#); [Human](#); [Interleukin-2](#); [Leukocyte Count](#); [Leukocytes](#); [Mononuclear](#); [Mice](#); [Receptors, Interleukin-2](#); [Recombinant Proteins](#); [Solubility](#)

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